

**[Claims]** I claim:

1. An Air-Conditioned Enclosure assembly comprising of a portable Air-conditioning means and a connected Enclosure to provide an air-conditioned enclosed space, with fresh air supply, said Enclosure comprising of: -

- a. an Enclosure suitable to be fitted on to any flat surface,
- b. Frame – means to support the Enclosure structure and assembled with frame members, corner connectors,
- c. Roof – means of lightweight board structure with vertical rim or lip along the periphery,
- d. Support straps means on the roof to suspend the said roof onto said frame,
- e. Sidewalls – means plurality of plastic sheets along with spacer strips,
- f. Roof lip, shield and clip means – to hold the sidewalls onto the said Roof,
- g. Openings in Enclosure means to accommodate air ducts of air-conditioning unit,
- h. Air-conditioner means – for cooling the Enclosure,

and said Air-Conditioner means comprising of: -

- i) a Main Housing,
- ii) an Exit Air Duct connected on the top of the said housing,
- iii) an Air Plenum connected to the said exit air duct,
- iv) an Air Filter located at the bottom of the said Air Plenum,
- v) An air moving devise such as a fan motor assembly located at the bottom portion of the said Air Plenum next to the said air filter,
- vi) an Evaporator Coil, heater element assembly fixed below the said air moving devise,
- vii) a Supply Air Duct connected on one side of the said housing and below the said evaporator coil assembly,
- viii) A second air moving devise such as a fan blower assembly fixed below the said supply air duct,
- ix) An Exhaust Air Duct attached to the said fan blower assembly on its side and extends through the back side of the said housing,
- x) A Condensing Coil Bank fixed below the said blower,

- x) A Compressor Chamber containing a Compressor fixed below the said condensing coil bank,
- xii) A Control Panel located on the side of said supply air duct,
- xiii) A Fresh Air Chamber located inside the housing, extending from the said Air Plenum at the top, to the bottom of said Air-conditioner Housing,
- xiv) A Heat Transfer Duct located inside the said Fresh Air Chamber connected to the said Air Plenum at the top and connected to the said Compressor Chamber at the other end,

2. The Enclosure system of claim 1 (a), wherein the Enclosure thermally isolates the enclosed space from the surroundings,

3. The Enclosure system of claim 1 (b), wherein the Frame means includes frame members and corner connectors to form a rectangular configuration and have plurality of vertical extensions or legs,

4. The Enclosure system according to claim 3, wherein the said frame members are made of telescoping tubes of suitable size, preferably plastic tubes, assembled with said corner connectors to create the said Enclosure of adjustable size,

5. The Enclosure system of claim 1 (c), wherein the Enclosure has a roof construction suitably of lightweight rigid board structure with insulation properties,

6. The Enclosure roof of claim 5, wherein the said roof has a vertical rim or lip, around it and plurality of support straps, such that when the said roof is suspended from the said frame, the said support straps wraps around the said frame members and forms a loop and fastens on to itself, preferably using hook and loop fasteners,

7. The Enclosure system of claim 1 (e), wherein the sidewalls are made of plurality of Enclosure wall sheets and are preferably transparent plastic sheets,

8. The Enclosure system of claim 1 (e), wherein air space is formed between the wall sheets, by fixing plurality of thin, flexible, lightweight spacer strips of suitable

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through the back of the housing that is preferably flexible, collapsible, light weight round air duct,

16. The air-conditioner means as claimed in claim 1 (h) and sub-para (xi), wherein the lower portion of the said compressor chamber which is also the lower portion of the housing have plurality of air holes to form an air grill in the housing wall,

17. The air-conditioner means as claimed in claim 1 (h) and sub-para (xii), wherein the said control panel consists of control knobs for temperature, fresh air volume, humidity, light and temperature gauge, light bulb, clock with alarm and other necessary gadgets,

18. The air-conditioner means as claimed in claim 1 (h) and sub-para (xiii), wherein the said Fresh Air Chamber consists of: -

- a Heat Transfer Duct inside the said Fresh Air Chamber, along with,
- an air damper in the said Heat Transfer Duct at the same level of the said control panel and
- a control knob connected to Heat Transfer Duct with rods and links control the amount of exit air that is replaced by fresh air in the Enclosure,

19. The said Fresh Air Chamber as claimed in claim 18, wherein the Heat Transfer Duct is connected at the top with the said Air Plenum and at the bottom it is connected to the said compressor chamber forming an air passage between the said Air Plenum and the said compressor chamber to exhaust part of the said exit air to the said compressor chamber,

20. The said Fresh Air Chamber as claimed in claim 18, wherein the Fresh Air Chamber has a Heat Transfer Duct, made of preferably flexible, collapsible, and lightweight duct structure with good heat transfer property,

21. The said Fresh Air Chamber as claimed in claim 18, wherein the said Fresh Air Chamber does not have any direct air communication with the said compressor chamber and supplies fresh air to the said Air Plenum,

22. The Fresh Air Chamber and the Heat Transfer Duct assembly conserves energy by transferring energy from the said Exit Air in the said Heat Transfer Duct to the fresh air in the Fresh Air Chamber, and also by supplying the said Exit Air to the said Condensing Coil Bank,

23. An air-conditioned Enclosure assembly as herein before described and as illustrated with reference to the accompanying drawings.

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